



*NORTH DAKOTA*  
**STATEWIDE  
INTEROPERABLE  
RADIO NETWORK**

**FEASIBILITY STUDY**



# AGENDA

**SIRN FEASIBILITY STUDY OVERVIEW**

**NORTH DAKOTA RADIO SYSTEMS TODAY**  
**STRENGTHS AND CHALLENGES**

**THE SIRN 20/20 PLAN**  
**TECHNOLOGY | OPERATIONS | GOVERNANCE**

**WHAT IS THE SIRN FEASIBILITY STUDY?**

**WORKING SESSION | GATHERING INPUT**



# SIRN FEASIBILITY STUDY IN BRIEF - PREQUEL

## EXPLORATORY STUDY:

- LATE 2014 PROJECT
- PHASE I OF SIRN 20/20 STUDY
- SPONSORED BY A WIDE STAKEHOLDER BASE

## SIRN FEASIBILITY STUDY:

- ADVANCE PREVIOUS STUDY
- STEERED BY THE SIEC
- EXECUTED BY ND ITD

		
North Dakota 911 Association: STEPS Subcommittee	North Dakota Fire Chief's Association	North Dakota Emergency Management Association
		
ND Association of Public Safety Communications Officials	North Dakota Highway Patrol	North Dakota Sheriff's and Deputies Association
		
North Dakota Department of Emergency Services	ND Information Technology Department	North Dakota EMS Association
		Police Chief's Association
North Dakota Department of Transportation	North Dakota Peace Officers Association	



# SIRN FEASIBILITY STUDY IN BRIEF

- ☐ Director of State Radio or a designee – Mike Lynk
- ☐ Director of the Division of Homeland Security or a designee – Greg Wilz
- ☐ Superintendent of the Highway Patrol or a designee – Maj Brandon Solberg
- ☐ Adjutant General or a designee – Major General Alan Dohrmann
- ☐ Director of the Department of Transportation or a designee – Russ Buchholz
- ☐ Representative of the North Dakota Sheriff's and Deputies Association – Gary Sanders
- ☐ Representative of the North Dakota Emergency Managers Association – Karen Kempert
- ☐ Representative of the North Dakota Fire Chiefs Association – Gary Lorenz/Vice Chair
- ☐ Representative of the North Dakota Emergency Medical Services Association – Dan Schaefer
- ☐ Representative of the North Dakota Police Chiefs Association – Arthur Walgren
- ☐ Representative of the North Dakota Peace Officers Association – Don Fiebiger
- ☐ Representative of the North Dakota 911 Association – Mike Dannenfelzer
- ☐ North Dakota Chief Information Officer or a designee – Mike Ressler/Chair



# NORTH DAKOTA RADIO SYSTEMS TODAY



# NORTH DAKOTA RADIO SYSTEMS TODAY

## DOZENS OF DISPARATE SYSTEMS

### STATE RADIO

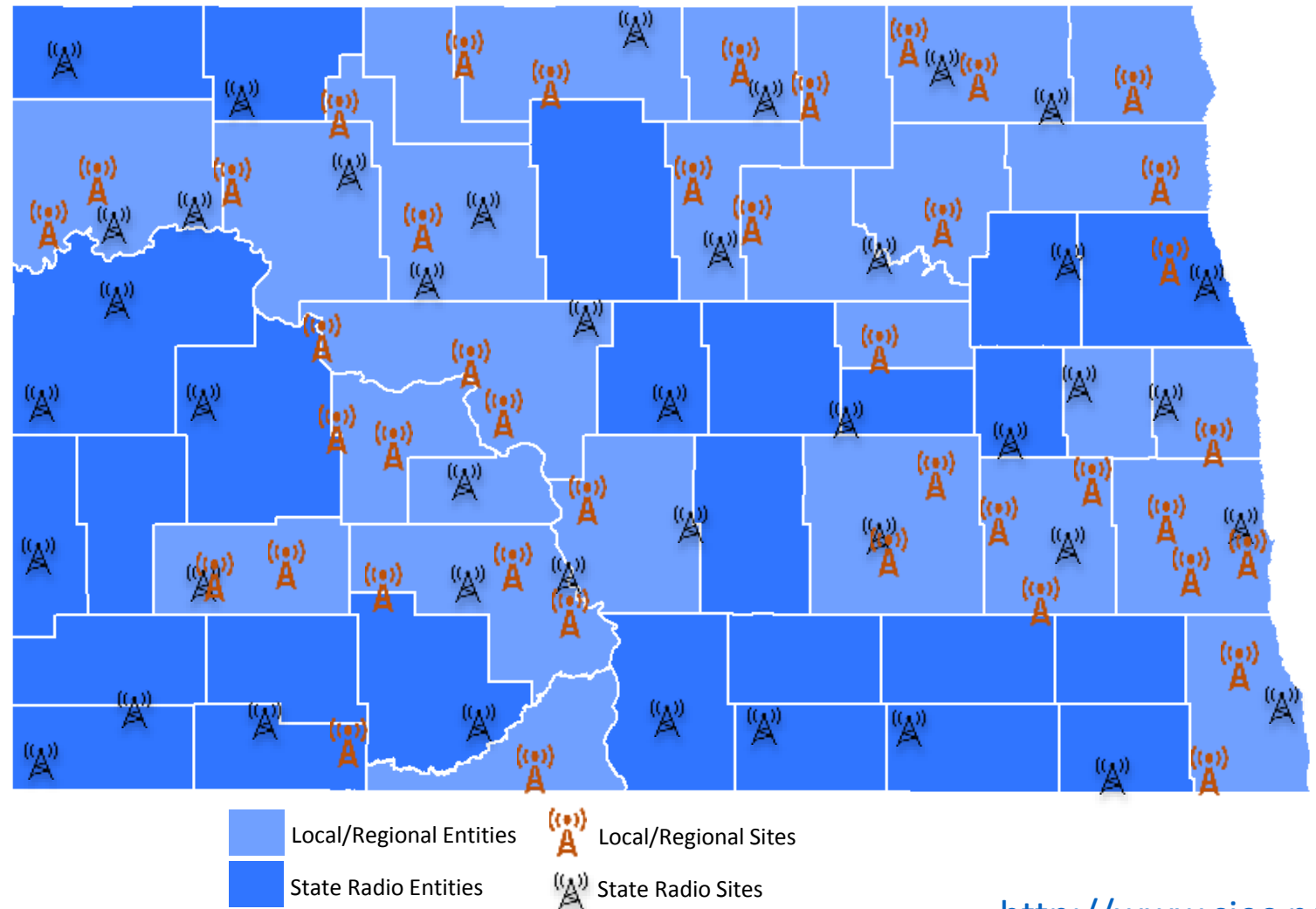
- STATE AGENCIES
- 25 COUNTIES - SEVERAL WITH LOCAL AUGMENTATION

### INDEPENDENT NETWORKS

- REGIONAL, TRIBAL, COUNTY OR CITY

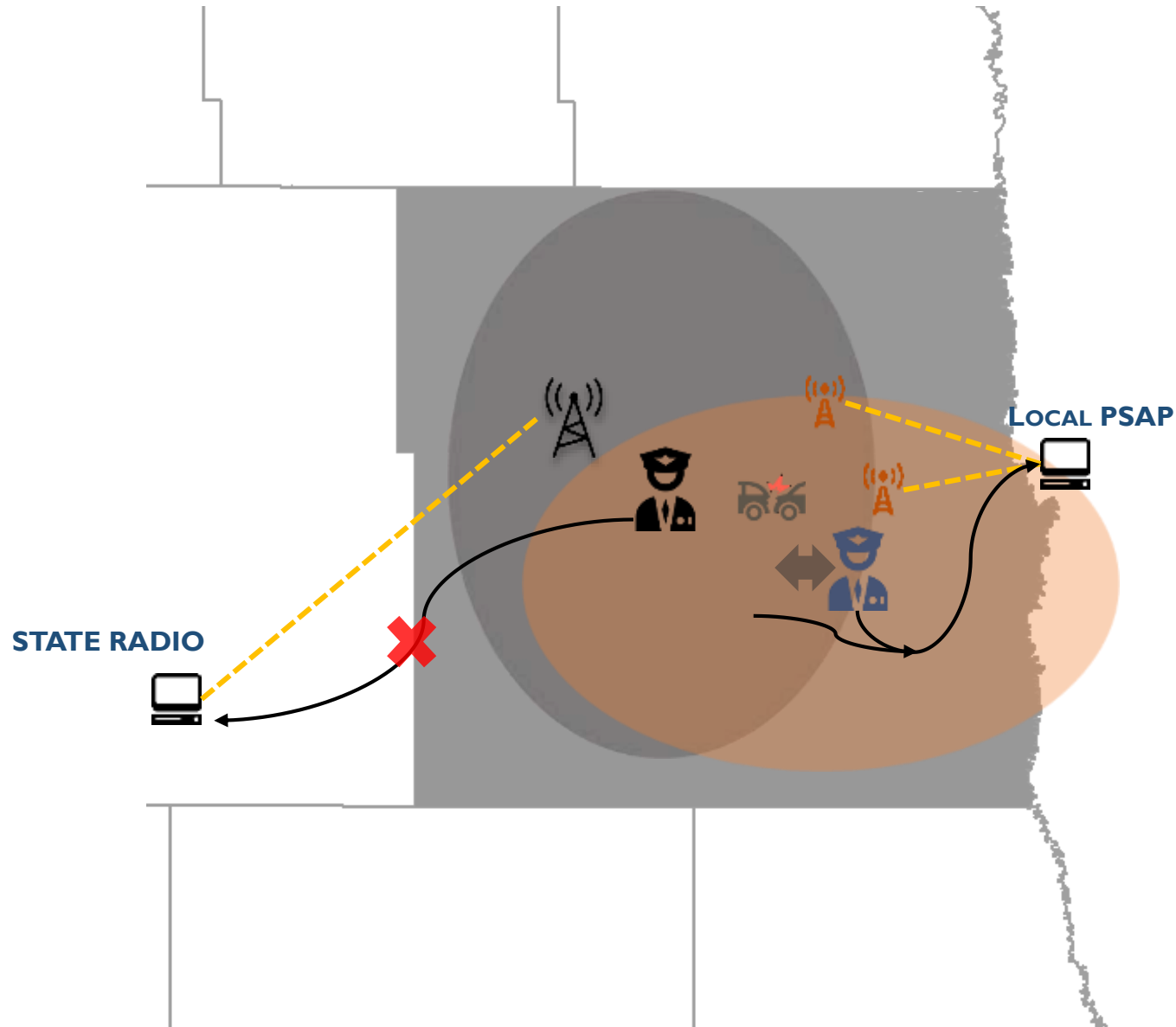
## CONVENTIONAL TECHNOLOGY

## AGING SYSTEMS



# NORTH DAKOTA RADIO SYSTEMS TODAY

**DISPARATE  
SYSTEMS**



**CONVENTIONAL  
TECHNOLOGY**



# NORTH DAKOTA RADIO SYSTEMS TODAY

## CONVENTIONAL TECHNOLOGY



**FIRE CHANNEL IS CONGESTED WITH MULTIPLE EVENTS  
WHILE CHANNEL 2 IS VACANT**

**COMMON CHANNEL 1**



**IF SINGLE CHANNEL – EVERYONE HEARS  
ALL CONVERSATIONS ALL THE TIME**

## DEDICATED CHANNELS

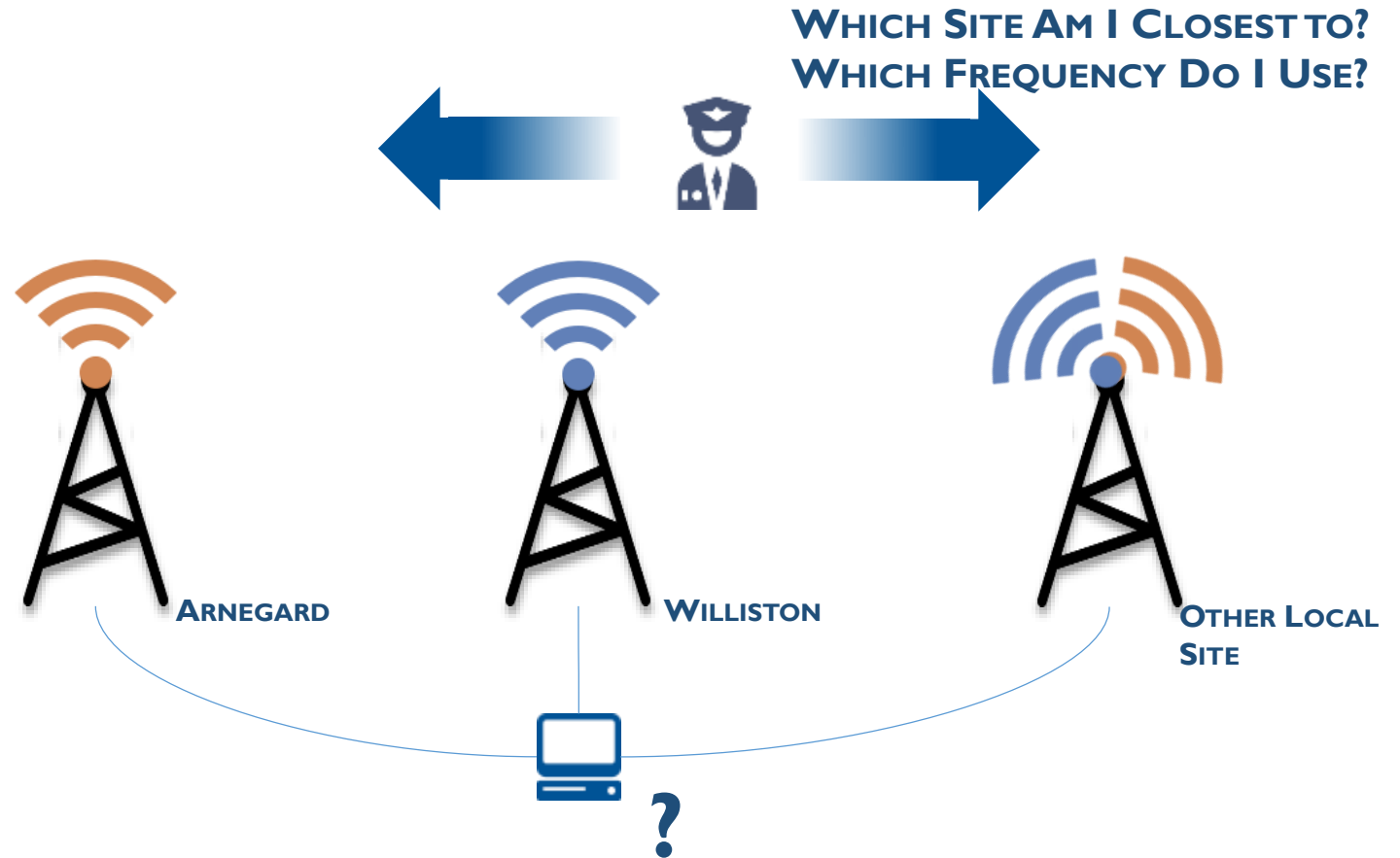
- **CONGESTION EVEN WHEN CHANNEL IS AVAILABLE**
- **NUISANCE COMMUNICATION DURING MULTIPLE INCIDENTS**



# NORTH DAKOTA RADIO SYSTEMS TODAY

## CONVENTIONAL TECHNOLOGY

- ☐ **CONSTANT AWARENESS OF LOCATION IN RELATION TO A SITE**
  - **BY DISPATCHER**
  - **BY FIRST RESPONDER**
- ☐ **NON-UBIQUITOUS ACCESS**
  - **CAUSES DIMINISHED SERVICE DESPITE AVAILABILITY OF TOWERS**



# NORTH DAKOTA RADIO SYSTEMS TODAY

## BENEFITS OF CONVENTIONAL NETWORKS & CURRENT ECOSYSTEM

- **BASIC TECHNOLOGY**
  - **SIMPLICITY HAS LIMITED POTENTIAL FOR FAILURE**
  - **NO NEED FOR RADIO TO BE REGISTERED (ANYONE CAN PROGRAM AND TALK ON SYSTEM)**
- **LESS EXPENSIVE**
- **PAGING CAPABILITIES OVER THE SAME CHANNEL AS VOICE**
- **TRUNKING WOULD REQUIRE STATEWIDE AGENCIES TO HAVE SEPARATE REGIONAL TALKGROUPS**

**ENHANCED LOCAL CONTROL (ALIGNED WITH LOCAL FUNDING)**

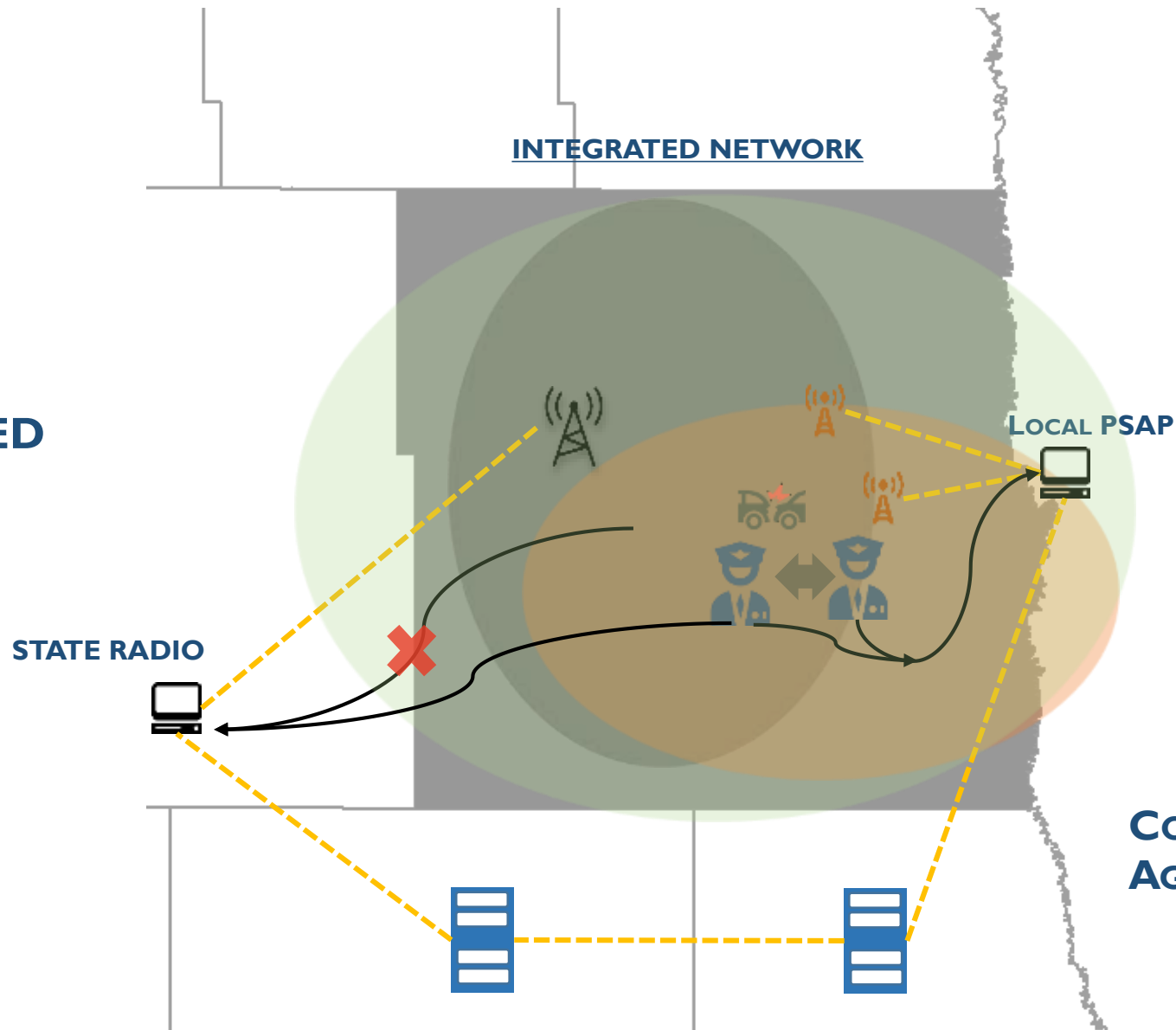


# THE SORN 20/20 POTENTIAL



# SIRN 20/20 CAPABILITIES

**INTEGRATED  
SYSTEMS**



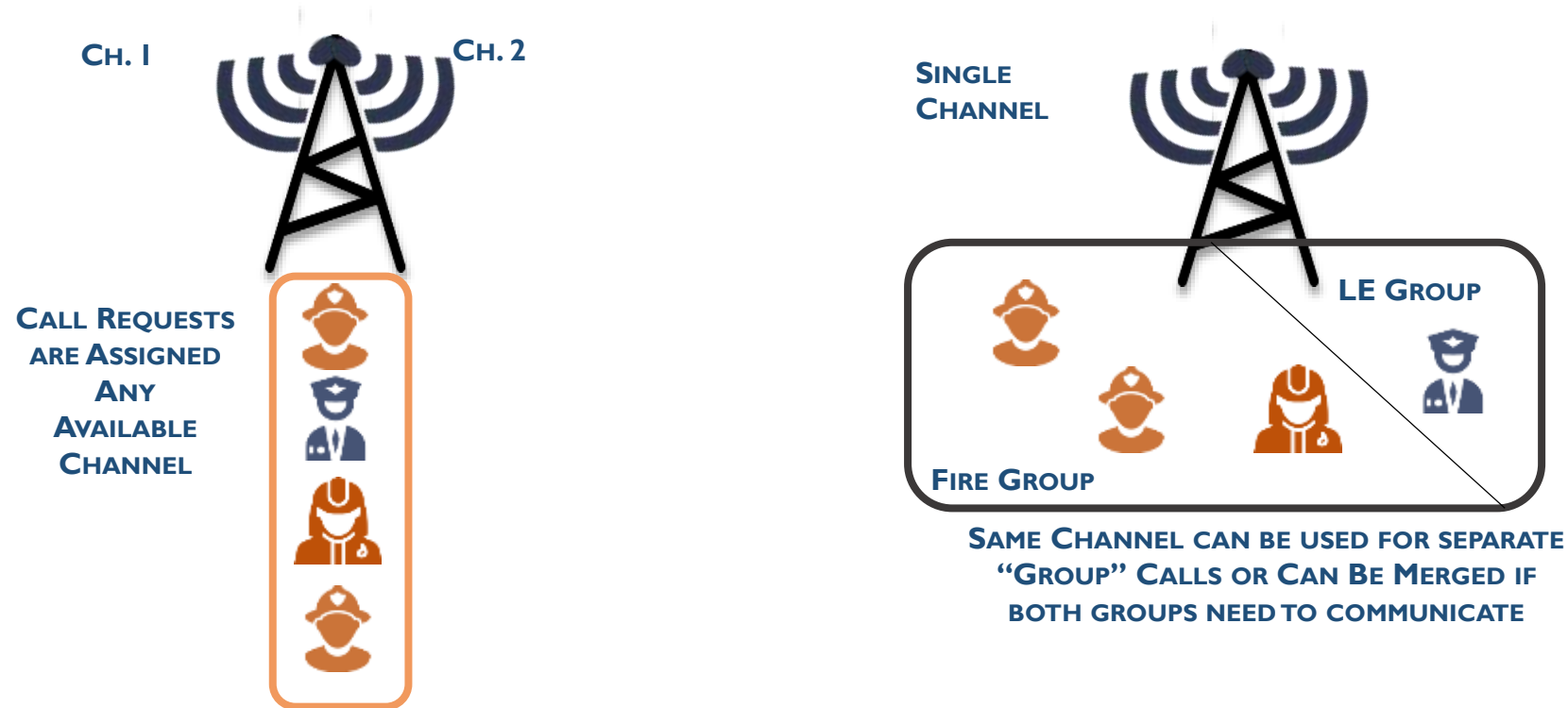
**P25/  
TRUNKED  
TECHNOLOGY**

**CONSOLE PATCH  
AGGREGATED GROUP CALL**



# SIRN 20/20 CAPABILITIES

## TRUNKED TECHNOLOGY

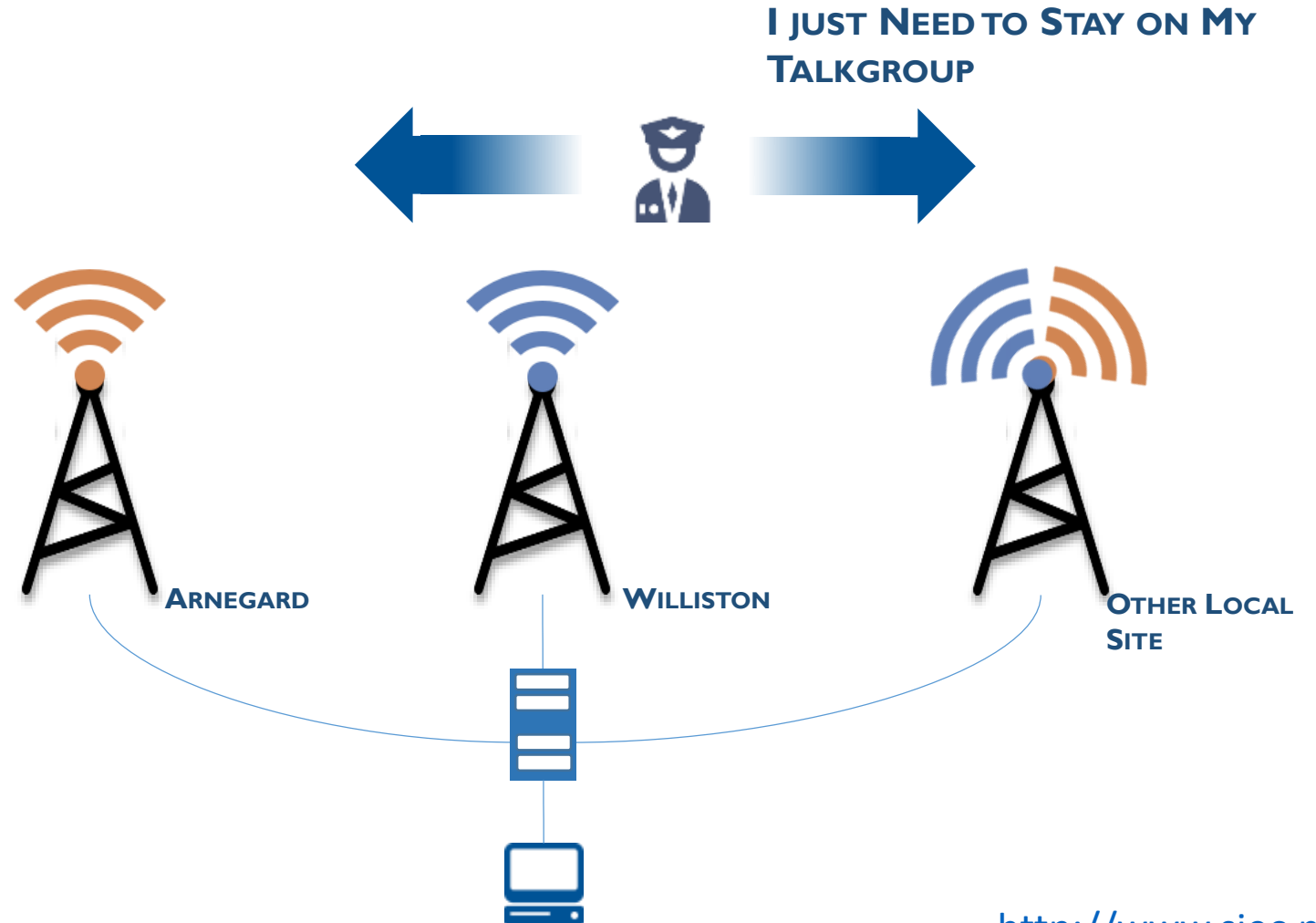


- ❑ **CHANNEL AGNOSTIC GROUP CALLS**
  - CHANNELS SEQUENTIALLY ASSIGNED TO USERS
  - DEDICATED GROUP CALLS DURING MULTIPLE INCIDENTS

# SIRN 20/20 CAPABILITIES

## INTEGRATED SYSTEM

- ❑ **NETWORK CONTROLLER**  
**KEEPS TRACK OF ALL**  
**SITES AND USERS**
- ❑ **CONSTANT AWARENESS**  
**OF LOCATION IN**  
**RELATION TO A SITE**
  - **BY DISPATCHER**
  - **BY FIRST RESPONDER**



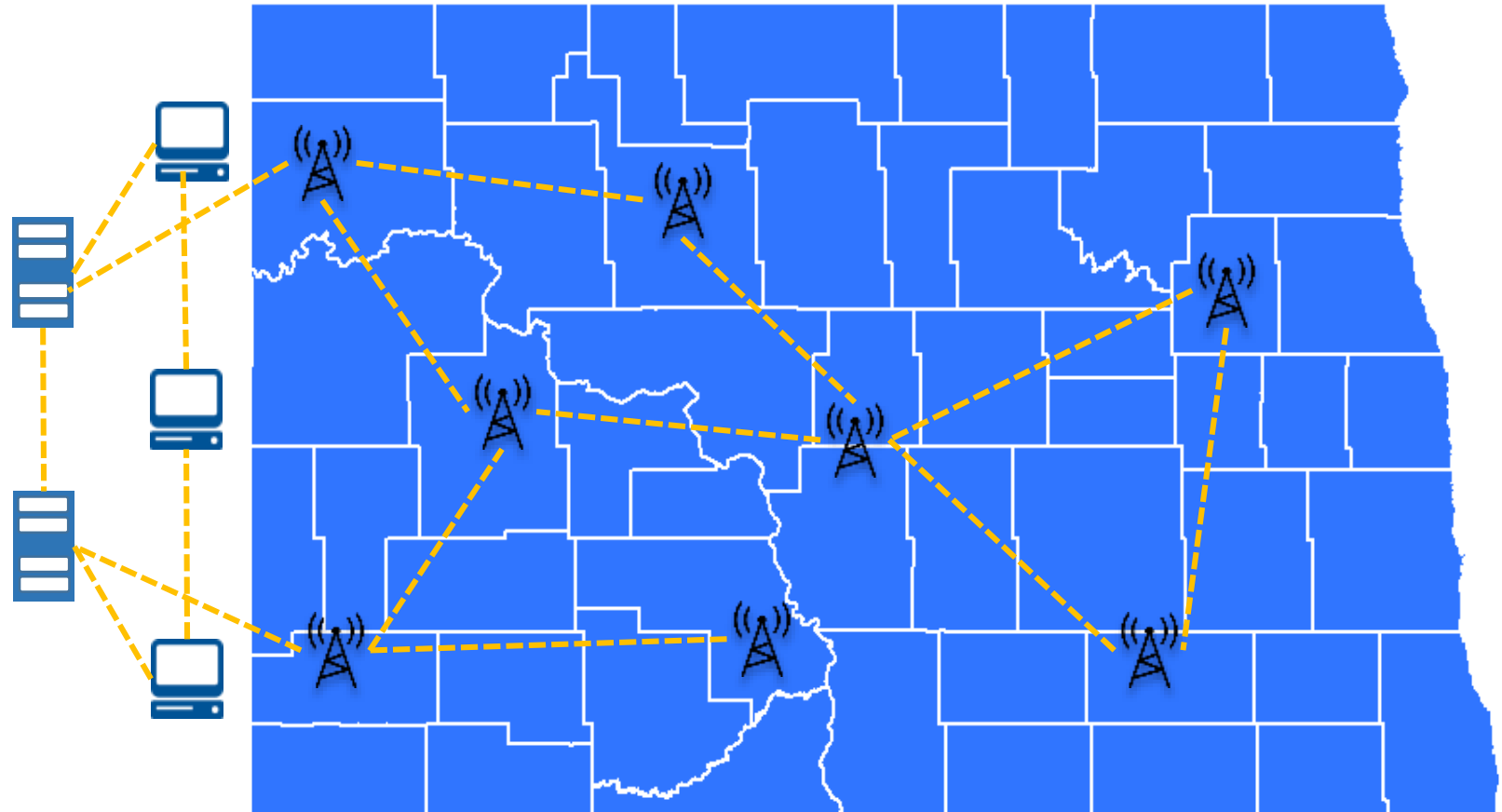
# SIRN 20/20 CAPABILITIES

## How Would SIRN 20/20 Achieve This?

**REDUNDANT NETWORK  
CONTROLLER TO MANAGE  
CHANNELS, RADIOS,  
CONSOLES**

**NETWORKED SITES**

**IP BACKBONE TO  
INTERCONNECT ALL  
NETWORK ASSETS**



**INTEGRATED**



# THE SARN 20/20 VISION FOR SUCCESS

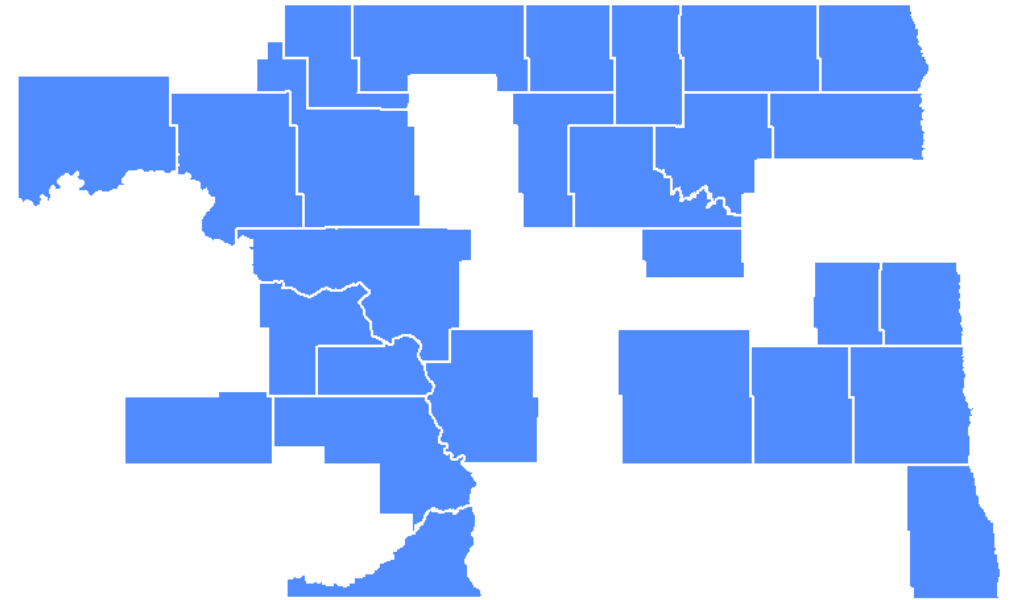




# THE SORN 20/20 VISION FOR SUCCESS

## CRITERIA FOR SUCCESS

- **BROAD ADOPTION**
- **EQUITABLE GOVERNANCE & REPRESENTATION**
- **ROBUST PLANNING, IMPLEMENTATION AND OPERATIONS**
- **EFFECTIVE STANDARD OPERATING PROCEDURES**



AFFORDABLE AND SUSTAINABLE

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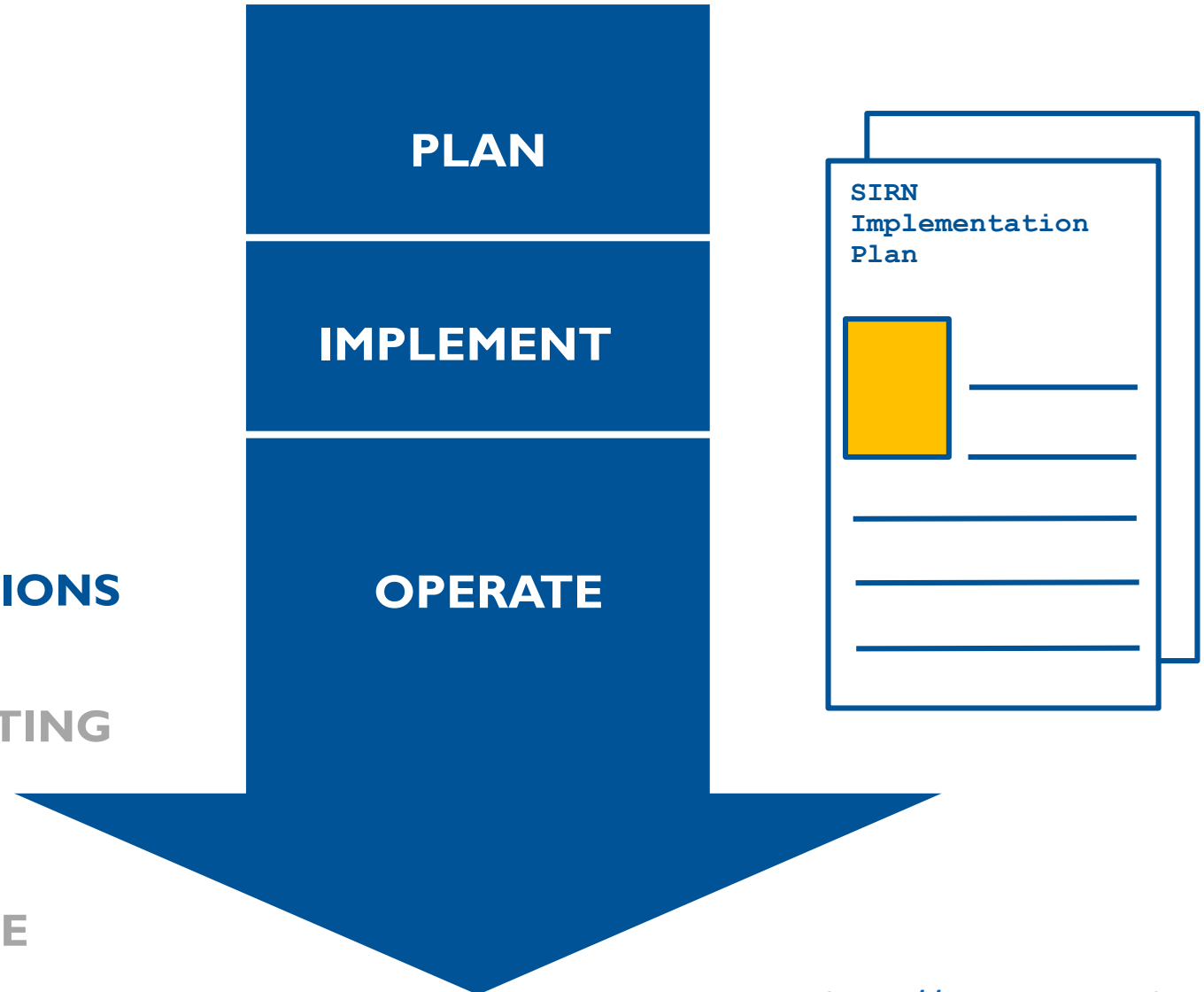


AFFORDABLE AND SUSTAINABLE

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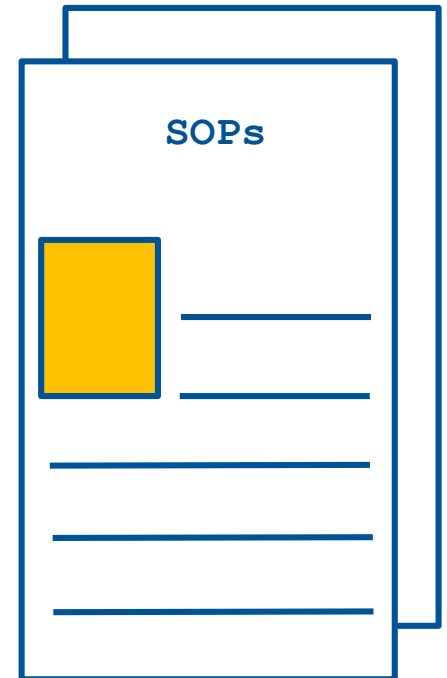
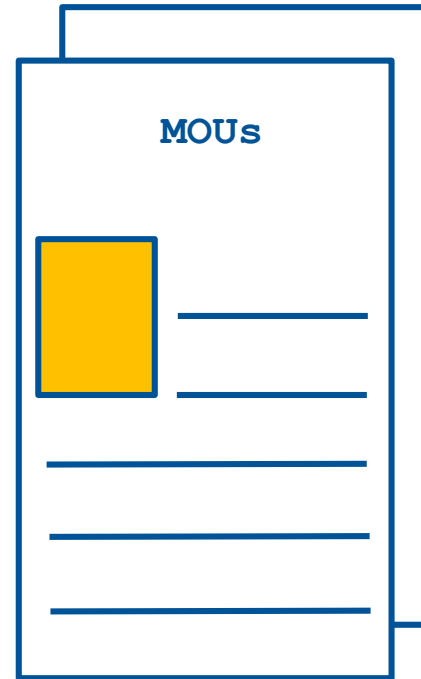


AFFORDABLE AND SUSTAINABLE

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AFFORDABLE AND SUSTAINABLE

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- EFFECTIVE STANDARDS OF PROCEDURES

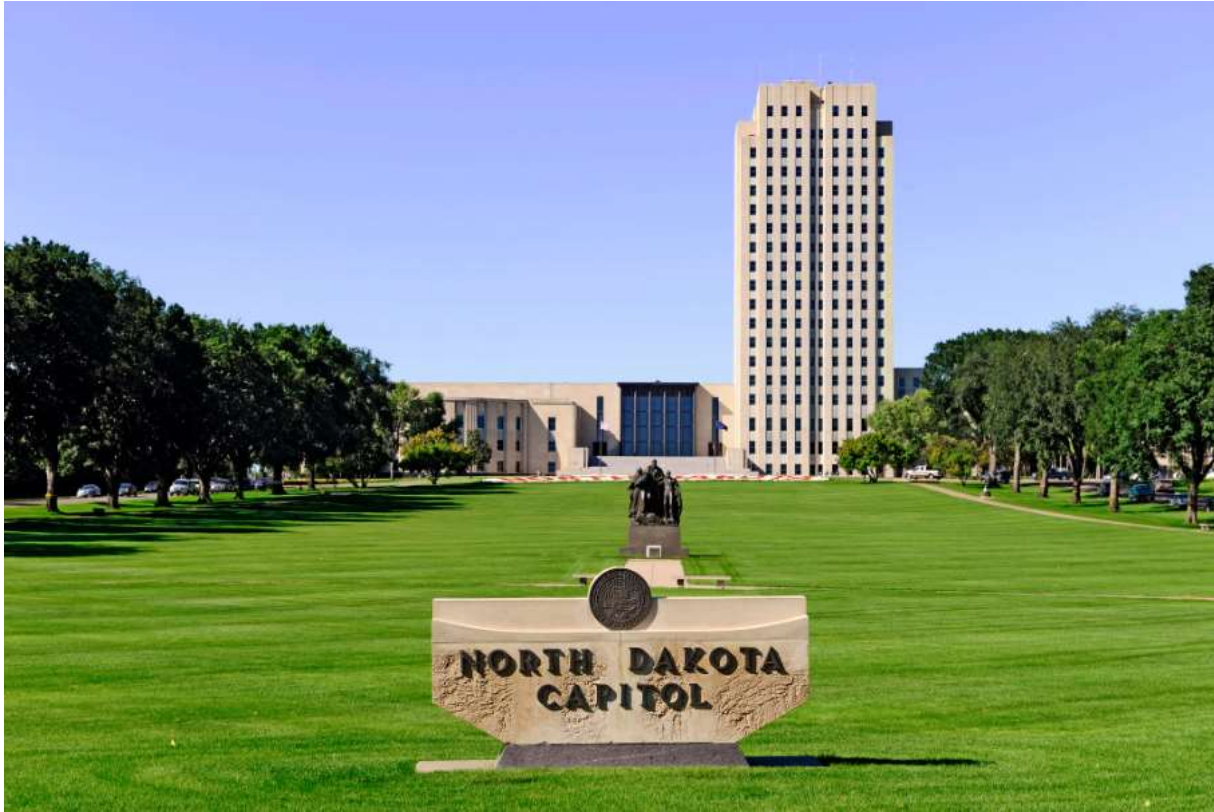
**AFFORDABLE AND SUSTAINABLE**



# SIRN 20/20 FEASIBILITY STUDY



# THE SORN 20/20 FEASIBILITY STUDY



**FUNDED BY THE 64<sup>TH</sup> STATE  
LEGISLATURE**

**THE FEASIBILITY STUDY SEEKS TO**

- **EVALUATE CONSENSUS**
- **DETERMINE FEASIBILITY**
- **DEVELOP A STRATEGIC PLAN**

**SIEC TO PRESENT RECOMMENDATIONS  
AND PLAN TO THE 65<sup>TH</sup> STATE  
LEGISLATURE**



# THE SORN 20/20 FEASIBILITY STUDY

## HIGH LEVEL COMPONENTS

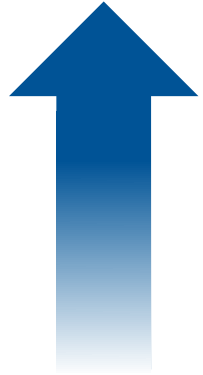
- ☐ **CONDUCT STAKEHOLDER OUTREACH**
- ☐ **GATHER FEEDBACK AND REQUIREMENTS**
- ☐ **DOCUMENT AND EVALUATE STATE AND LOCAL ASSETS**
- ☐ **EVALUATE STAKEHOLDER CONSENSUS**
- ☐ **CREATE A CONCEPTUAL DESIGN AND MIGRATION PLANS**
- ☐ **DEVELOP LIFECYCLE OWNERSHIP COSTS**
- ☐ **OUTLINE IMPLEMENTATION PLANS**
- ☐ **DEVELOP GOVERNANCE RECOMMENDATIONS**





# THE SORN 20/20 FEASIBILITY STUDY

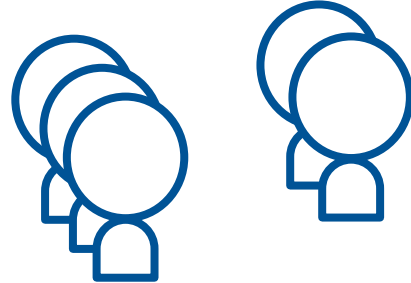
## OUTREACH AND FEEDBACK



**WEBSITE  
NEWSLETTERS**



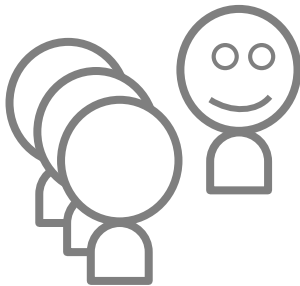
**REGIONAL  
MEETINGS**



☐ **CONDUCT STATEWIDE OUTREACH AND EDUCATION**

☐ **ACTIVELY ENGAGE STATE, LOCAL AND TRIBAL ENTITIES**

**IN PERSON  
INTERVIEWS**



**ONLINE SURVEYS  
VIDEO CONFERENCES**



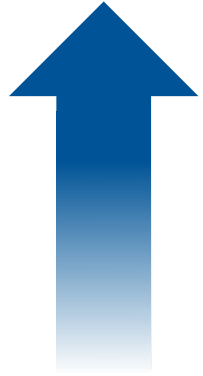
☐ **GATHER FEEDBACK ON TECHNICAL, OPERATIONAL AND FINANCIAL NEEDS**

☐ **DETERMINE GOVERNANCE AND OWNERSHIP MODELS**



# THE SORN 20/20 FEASIBILITY STUDY

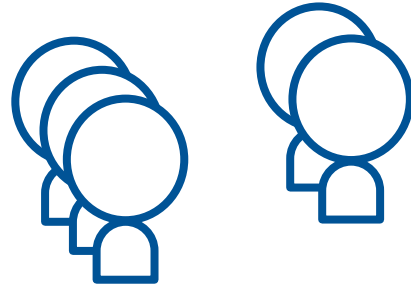
## OUTREACH AND FEEDBACK



WEBSITE  
NEWSLETTERS



REGIONAL  
MEETINGS

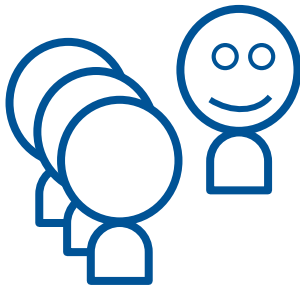


☐ CONDUCT STATEWIDE OUTREACH AND EDUCATION

☐ ACTIVELY ENGAGE STATE, LOCAL AND TRIBAL ENTITIES

☐ DEFINE OPERATIONAL REQUIREMENTS

IN PERSON  
INTERVIEWS



ONLINE SURVEYS  
VIDEO CONFERENCES



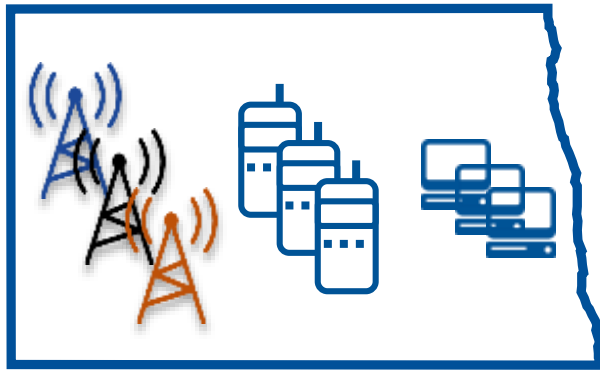
☐ GATHER FEEDBACK ON TECHNICAL, OPERATIONAL AND FINANCIAL NEEDS

☐ DETERMINE GOVERNANCE, FUNDING, AND OWNERSHIP MODELS

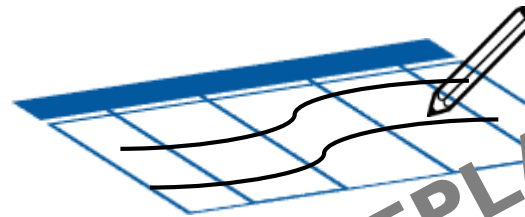


# THE SORN 20/20 FEASIBILITY STUDY

## QUANTIFY AND EVALUATE CURRENT RADIO SYSTEMS



DATA COLLECTION AND ANALYSIS



REUSE / UPGRADE / REPLACE

CAN THE EXISTING SYSTEMS SUPPORT FUTURE TECHNOLOGIES?

- ABILITY OF SUBSCRIBERS TO SUPPORT DIGITAL/P25
- LIFECYCLE OF DEVICES
- SUFFICIENT TOWER AND SHELTER SPACE
- AVAILABILITY OF REDUNDANT POWER
- STRUCTURAL INTEGRITY OF TOWER



# DATA COLLECTION DETAILS

## TOWER DATA DETAILS

Tower Name	
Latitude	
Longitude	
Height/ft.	
Structure Type	
Owner	
Leased/Owned	
# of Public Safety/Service Antennas	
Tower Purpose	
Backhaul Type [Fiber   T-1 (Leased Line)   Telephone   Microwave   Other]	
Generator [Yes/No]	
UPS/Battery Systems [Yes/No]	
Shelter Space Availability [Full   Medium   Ample]	
Tower Space Availability [Full   Medium   Ample]	
Most Recent Structural Analysis Complete Date	
Tower Drawing Available [Yes / No]	

## SUBSCRIBER DETAILS

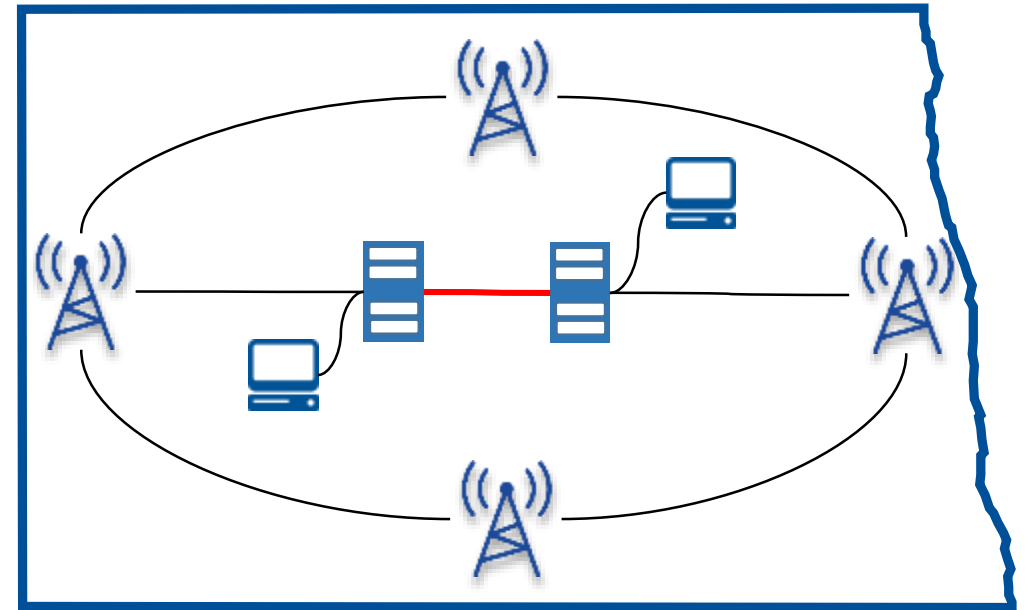
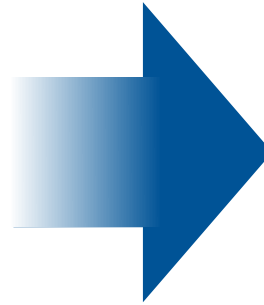
County   Jurisdiction	
Agency	
Form Factor [Portable   Mobile   Control Station   Pager]	
Mode [Analog   P25 Compliant   P25 Upgradeable]	
Trunking Capability [Already Capable   Upgradeable   Not Capable]	
Freq. Band	
Manufacturer	
Model	
Model Number	
Qty	
Serial Number	
Firmware	
Purchase Date	
Vehicle (If Mobile)	
Assigned To/Radio Alias	
Comments	



# THE SORN 20/20 FEASIBILITY STUDY

## OPERATIONAL REQUIREMENTS AND SOLUTION DESIGN

COVERAGE	FEATURES
RELIABILITY	CAPACITY
INTEROPERABILITY	LOCAL CONTROL
EVOLUTION	SUSTAINMENT
COST	OWNERSHIP



**COST-EFFECTIVE DESIGN  
THAT FULFILLS THE NEEDS  
OF THE STATE'S USERS**



# THE SIRM 20/20 FEASIBILITY STUDY

## COMPREHENSIVE STRATEGIC PLAN

● **ACQUISITION STRATEGY**  
Turnkey / Integrated

● **PROCUREMENT**  
Insourced / Outsourced

● **MIGRATION PLANS**  
Urban / Rural

● **DEPLOYMENT**  
Phased Approach

● **OPERATIONS**  
Insourced / Outsourced



# THE SORN 20/20 FEASIBILITY STUDY

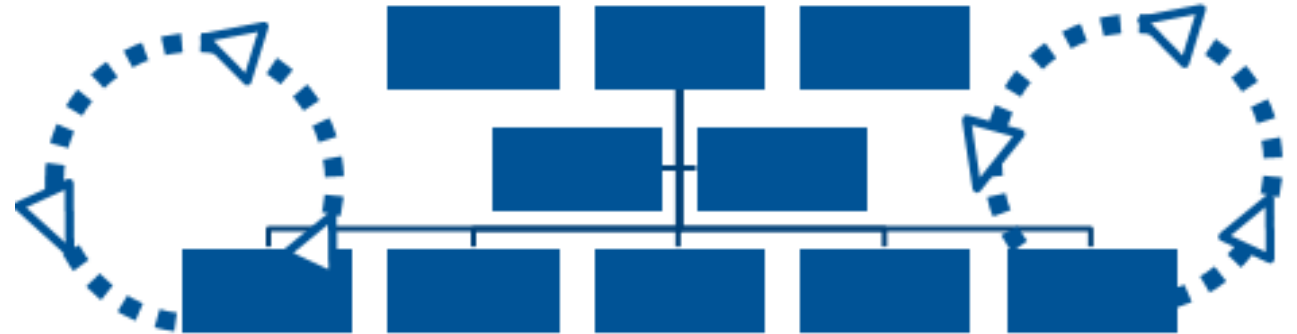
## GOVERNANCE STRUCTURE DEVELOPMENT

Identify governance models for the shared use, ownership and operations of SORN 20/20



**FAIR  
EQUITABLE  
REPRESENTATION**

**AT ALL LEVELS OF GOVERNMENT**

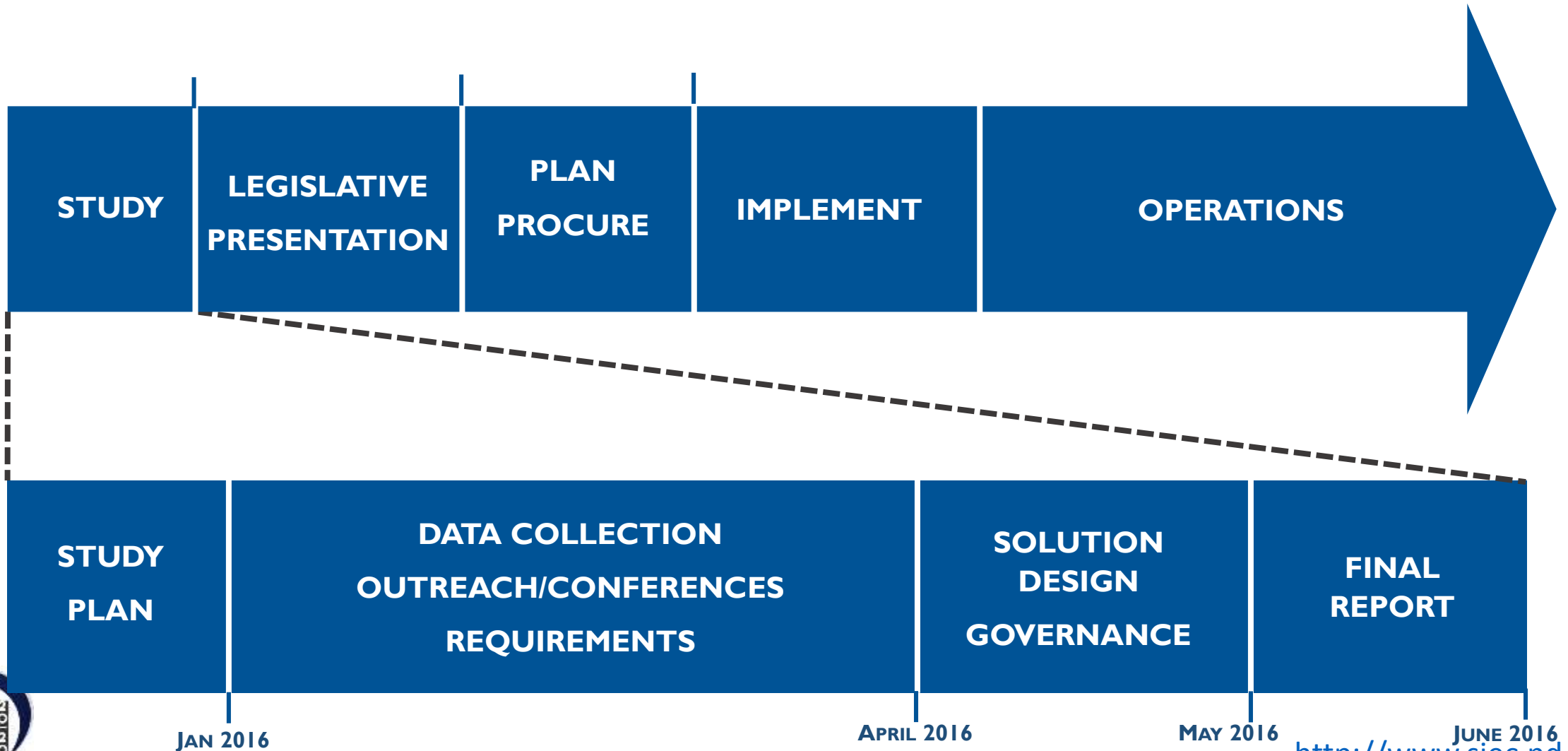


- Who pays for the implementation of the network?
- Who pays for ongoing operations?
- Who makes decisions? | How are decisions made?
- How are my assets incorporated into SORN?
- Will my operations personnel be integrated into SORN?
- What if I want to make improvements in my jurisdiction?
- How is my input incorporated into the process?
- How much local control will I have?

<http://www.siec.nd.gov>

# THE SORN 20/20 FEASIBILITY STUDY

## TENTATIVE PROJECT SCHEDULE





# WHAT DOES IT MEAN FOR YOU?



# WHAT DOES IT MEAN FOR YOU?

## ☐ PARTICIPATE ACTIVELY IN SORN 20/20 FEASIBILITY STUDY

- REQUIREMENTS GATHERING
- DATA COLLECTION
- GOVERNANCE DEVELOPMENT
- SUPPORT OUTREACH TO YOUR LOCAL STAKEHOLDERS

## ☐ IF IMPLEMENTED

- ASSETS CONTRIBUTIONS – TOWERS | FREQUENCIES
- SUBSCRIBER RADIOS REPLACEMENT OR REPROGRAMMING
- SHARED CONVERSATION GROUPS REALIGNMENT
- ON-GOING TRAINING

## ☐ PROVIDE CONTINUED FEEDBACK ON IMPLEMENTATION



# REQUIREMENTS & EXPECTATIONS SESSIONS



# REQUIREMENTS & EXPECTATIONS SESSION

## TECHNICAL

- **COVERAGE**
  - **PORTABLE (INDOOR/OUTDOOR)**
  - **MOBILE**
- **FEATURES**
  - **PRIVATE OR SHARED TALKGROUPS**
  - **IMPROVED CAPACITY**
  - **GPS**
  - **ENCRYPTION**
- **INTEROPERABILITY**
  - **LOCAL | STATEWIDE | OTHER STATES | FEDERAL**
- **DISPATCH FLEXIBILITY (GEOGRAPHIC)**

## POLICY AND OPERATIONS

- **FUNDING MECHANISMS (CAPITAL & OPERATIONAL)**
  - **911 FEES**
  - **LOCAL FUNDING**
  - **STATE FUNDING**
- **ASSET CONTRIBUTION**
  - **FREQUENCIES**
  - **TOWERS**
- **GOVERNANCE BOARDS**
  - **INPUT ON REPRESENTATION STRUCTURE**
  - **WHAT'S THE BOARD OVERSIGHT**
  - **WHO OPERATES THE SYSTEM**
  - **LOCAL CONTROL (TRUST)**



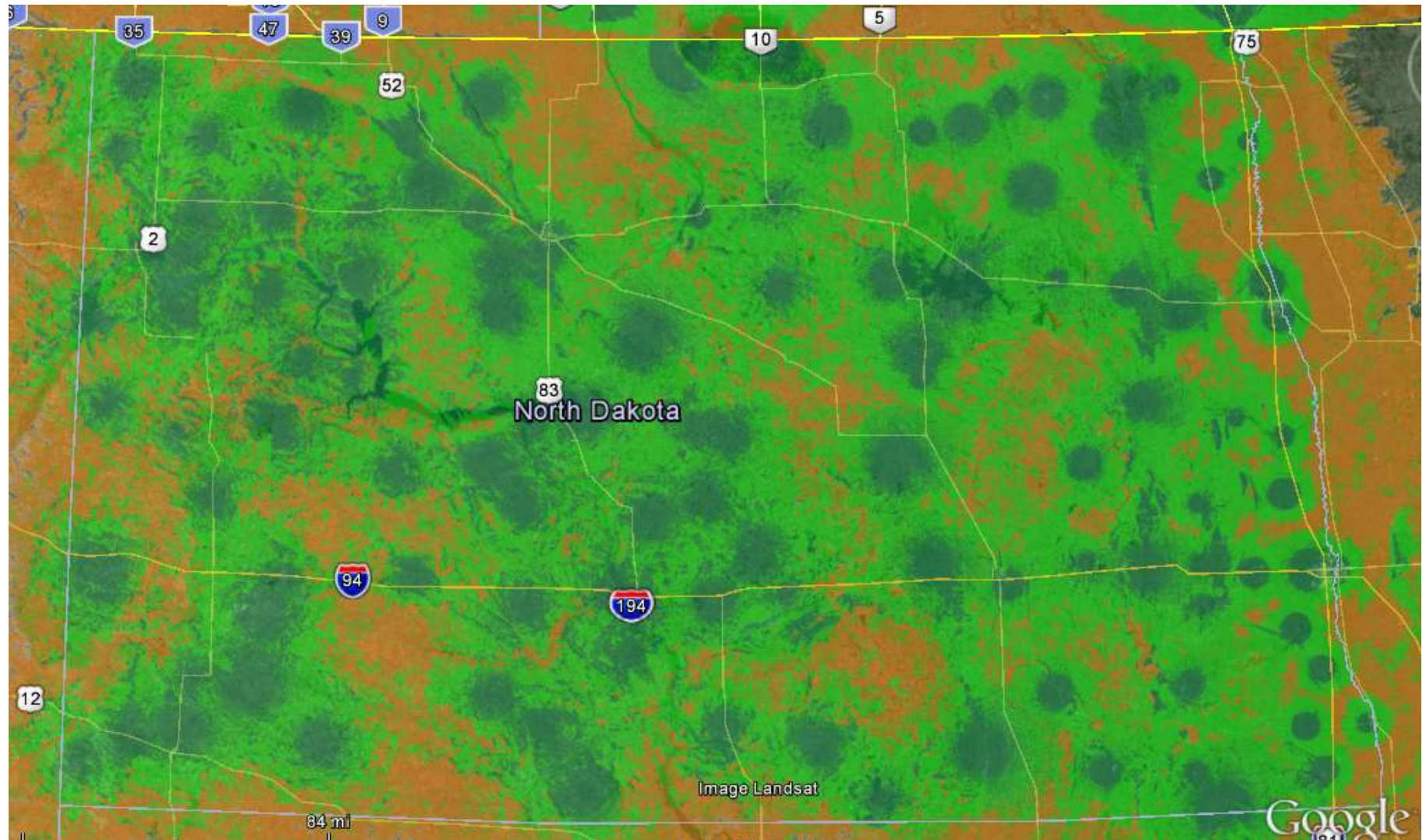
# PROJECTED SORN 20/20 COVERAGE

**STATEWIDE**

**INDOOR PORTABLE**

**OUTDOOR PORTABLE**

**MOBILE**

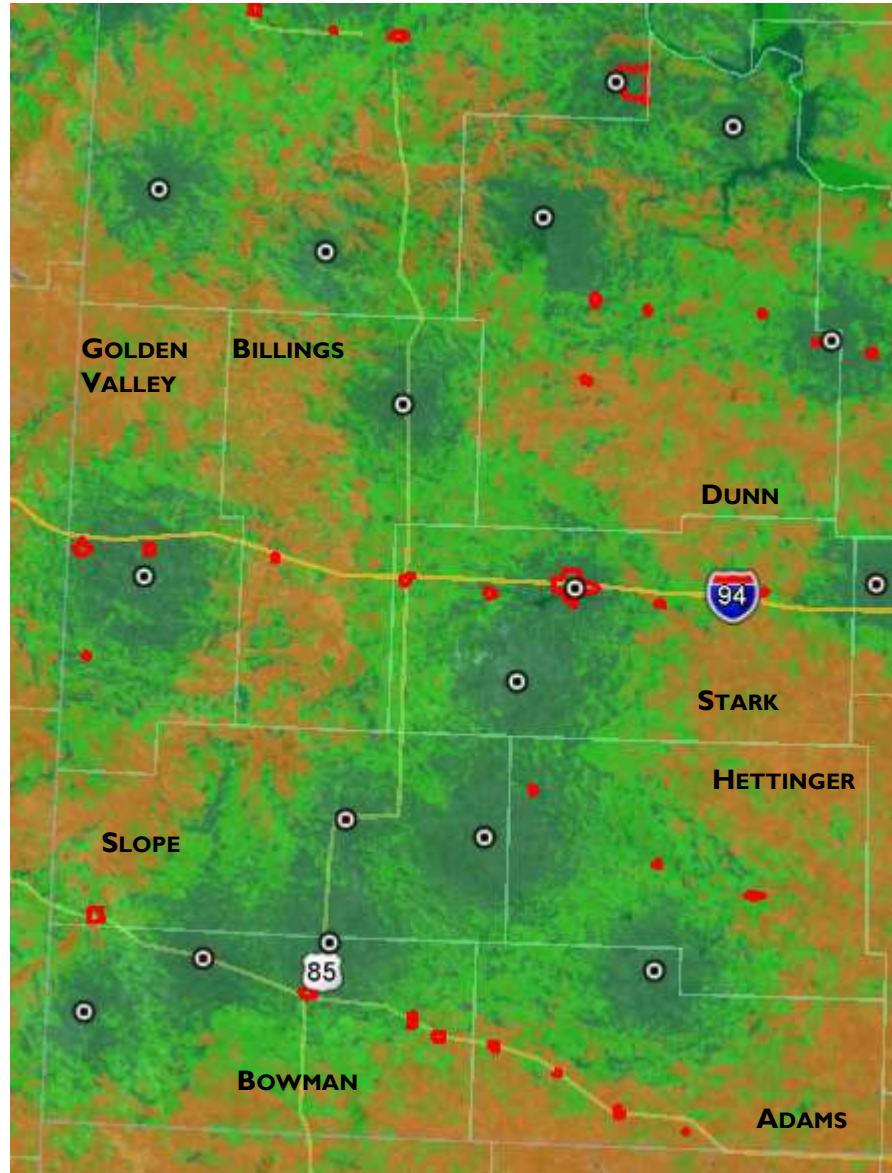




# PROJECTED SIRN 20/20 COVERAGE

## DICKINSON REGION

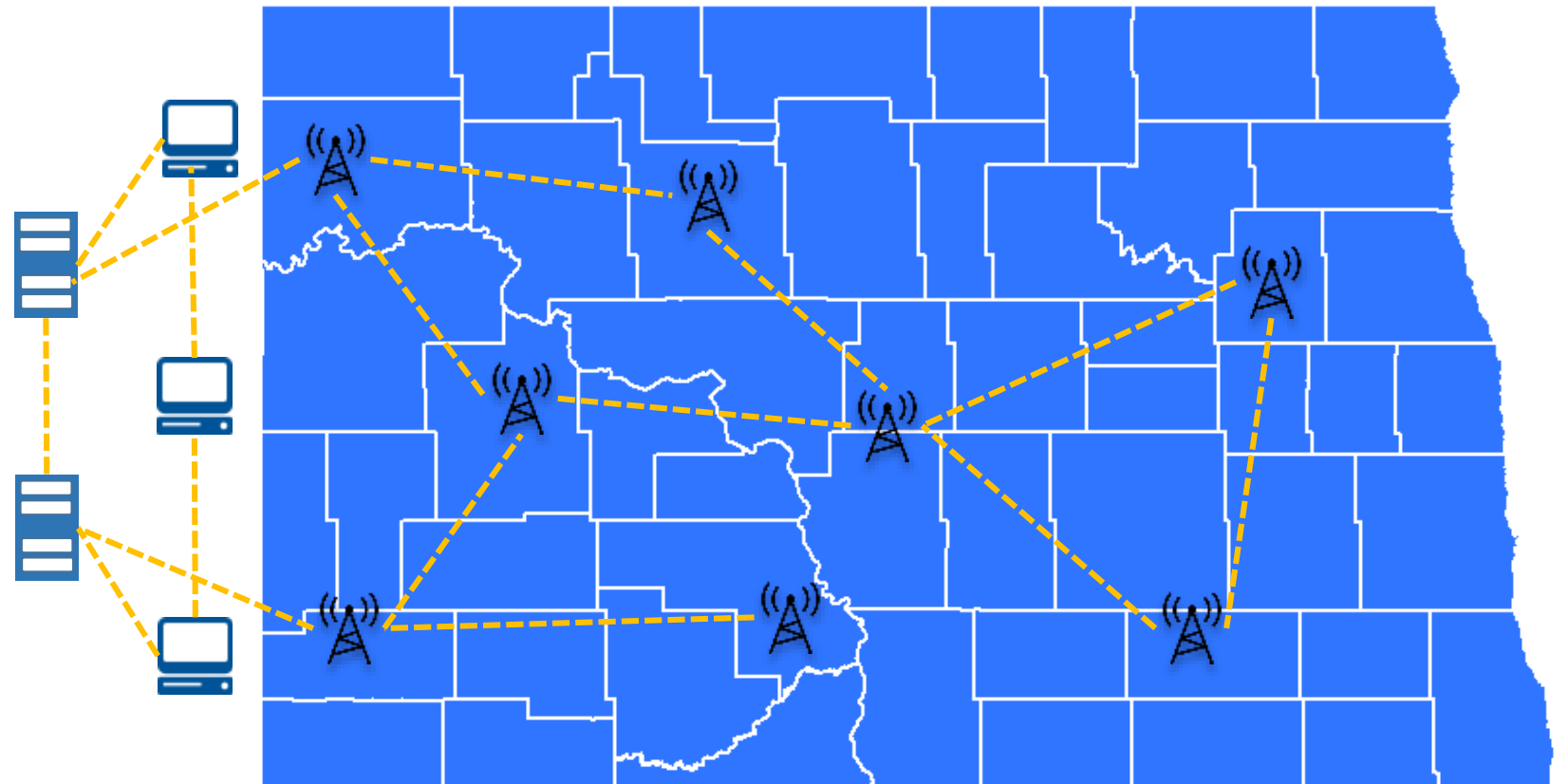
- INDOOR PORTABLE
- OUTDOOR PORTABLE
- MOBILE



# QUESTIONS

SIRN 20/20

**INTEGRATED**  
**STATEWIDE**  
**INTEROPERABLE**



**END**

